



# SEQUENCE LISTING

<110> Irvin, Randall T.  
Hodges, Robert S.

<120> Pseudomonas Treatment Composition and Method

<130> 0113190-00064

<140> US 09/865,159

<141> 2003-03-01

<150> US 09/329,884

<151> 1999-06-11

<150> US 60/089,155

<151> 1998-06-12

<160> 22

<170> PatentIn version 3.1

<210> 1

<211> 387

<212> DNA

<213> Pseudomonas aeruginosa

<400> 1

|            |            |             |            |            |            |     |
|------------|------------|-------------|------------|------------|------------|-----|
| gcgctcgagg | gtaccgaatt | cgcacgcgct  | cagcttagcg | aacgcatgac | cctggccagt | 60  |
| ggtctcaaga | cgaaagtgag | cgatatcttc  | tctcaggatg | ggtcctgccc | ggctaatact | 120 |
| gctgccacgg | caggcatcga | gaaagatacc  | gacatcaacg | gcaagtatgt | tgccaaggta | 180 |
| acaactggtg | gcaccgcagc | tgcgctctggt | ggttgcacta | tcgttgctac | tatgaaagcc | 240 |
| tctgatgtgg | ctactcctct | gagggggaaa  | actctgactt | tgactctagg | aaatgctgac | 300 |
| aagggttctt | acacttgggc | ctgtacttcc  | aacgcagata | acaagtacct | gccaaaaacc | 360 |
| tgccagactg | ctaccactac | cactccg     |            |            |            | 387 |

<210> 2  
<211> 129  
<212> PRT  
<213> Pseudomonas aeruginosa

<400> 2

Ala Leu Glu Gly Thr Glu Phe Ala Arg Ala Gln Leu Ser Glu Arg Met  
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Thr Leu Ala Ser Gly Leu Lys Thr Lys Val Ser Asp Ile Phe Ser Gln  
20 25 30  
Asp Gly Ser Cys Pro Ala Asn Thr Ala Ala Thr Ala Gly Ile Glu Lys  
35 40 45  
Asp Thr Asp Ile Asn Gly Lys Tyr Val Ala Lys Val Thr Thr Gly Gly  
50 55 60  
Thr Ala Ala Ala Ser Gly Gly Cys Thr Ile Val Ala Thr Met Lys Ala  
65 70 75 80  
Ser Asp Val Ala Thr Pro Leu Arg Gly Lys Thr Leu Thr Leu Thr Leu  
85 90 95  
Gly Asn Ala Asp Lys Gly Ser Tyr Thr Trp Ala Cys Thr Ser Asn Ala  
100 105 110  
Asp Asn Lys Tyr Leu Pro Lys Thr Cys Gln Thr Ala Thr Thr Thr Thr  
115 120 125

Pro

<210> 3  
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<212> DNA  
<213> Pseudomonas aeruginosa

<400> 3

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120  
ggtacagagg acgctactaa gaaagaggtt cctctggggg tggcggcaga tgctaacaaa  
180  
ctgggtacta tcgcactcaa acccgatcct gctgatggta ctgcagatat cactttgact  
240  
ttcactatgg gcggtgcagg accgaagaat aaagggaaaa ttattaccct gactcgtact  
300  
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360  
tgctctagg  
369

<210> 4  
 <211> 123  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 4

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Leu | Glu | Gly | Thr | Glu | Phe | Ala | Arg | Ser | Glu | Gly | Ala | Ser | Ala | Leu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ala | Ser | Val | Asn | Pro | Leu | Lys | Thr | Thr | Val | Glu | Glu | Ala | Leu | Ser | Arg |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Gly | Trp | Ser | Val | Lys | Ser | Gly | Thr | Gly | Thr | Glu | Asp | Ala | Thr | Lys | Lys |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Glu | Val | Pro | Leu | Gly | Val | Ala | Ala | Asp | Ala | Asn | Lys | Leu | Gly | Thr | Ile |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Ala | Leu | Lys | Pro | Asp | Pro | Ala | Asp | Gly | Thr | Ala | Asp | Ile | Thr | Leu | Thr |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Phe | Thr | Met | Gly | Gly | Ala | Gly | Pro | Lys | Asn | Lys | Gly | Lys | Ile | Ile | Thr |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Leu | Thr | Arg | Thr | Ala | Ala | Asp | Gly | Leu | Trp | Lys | Cys | Thr | Ser | Asp | Gln |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Asp | Gln | Gln | Phe | Ile | Pro | Lys | Gly | Cys | Ser | Arg |     |     |     |     |     |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     |     |     |     |     |

<210> 5  
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<400> 5

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| gcgctcgagg | gtaccgaatt | cgcgcggttcg | gaaggtgctt  | cggcgctggc | gacgatcaac | 60  |
| ccgctgaaga | ccactgttga | agagtcgctg  | tcgctggaa   | ttgctggtag | caaaattaaa | 120 |
| attggtacta | ctgcttctac | tgcgaccgaa  | acatatgccg  | gcgtcgagcc | ggatgccaac | 180 |
| aagttgggtg | taattgctgt | agcaatcgaa  | gatagtgggtg | cgggtgatat | tacctttacc | 240 |
| ttccagactg | gtacctctag | tccaagaat   | gctactaaag  | ttatcactct | gaaccgtact | 300 |
| gcggatgggg | tctgggcttg | taaatctacc  | caggatccga  | tgttcactcc | gaaaggttgt | 360 |
| gataac     |            |             |             |            |            | 366 |

<210> 6  
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 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 6

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Leu | Glu | Gly | Thr | Glu | Phe | Ala | Arg | Ser | Glu | Gly | Ala | Ser | Ala | Leu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ala | Thr | Ile | Asn | Pro | Leu | Lys | Thr | Thr | Val | Glu | Glu | Ser | Leu | Ser | Arg |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Gly | Ile | Ala | Gly | Ser | Lys | Ile | Lys | Ile | Gly | Thr | Thr | Ala | Ser | Thr | Ala |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Thr | Glu | Thr | Tyr | Ala | Gly | Val | Glu | Pro | Asp | Ala | Asn | Lys | Leu | Gly | Val |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Ile | Ala | Val | Ala | Ile | Glu | Asp | Ser | Gly | Ala | Gly | Asp | Ile | Thr | Phe | Thr |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Phe | Gln | Thr | Gly | Thr | Ser | Ser | Pro | Lys | Asn | Ala | Thr | Lys | Val | Ile | Thr |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Leu | Asn | Arg | Thr | Ala | Asp | Gly | Val | Trp | Ala | Cys | Lys | Ser | Thr | Gln | Asp |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     |     | 110 |     |
| Pro | Met | Phe | Thr | Pro | Lys | Gly | Cys | Asp | Asn |     |     |     |     |     |     |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     |     |     |     |     |

<210> 7  
 <211> 381  
 <212> DNA  
 <213> Pseudomonas aeruginosa

<400> 7

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|------------|------------|------------|------------|------------|------------|-----|
| gcgctcgagg | gtaccgaatt | cgcccgtacc | caggtgaccc | gtgccgtgag | tgaagtcagc | 60  |
| gcgctgaaga | ccgctgcgga | gtcggcgatt | ctggaaggga | aggagattgt | ttccagcgcg | 120 |
| actcctaaag | ataccagta  | tgacattggc | ttcaccgagt | ctactttgct | agatggttct | 180 |
| ggtaagagtc | agatccaggt | aacggacaat | aaagatggca | ccgttgagtt | ggtcgctacc | 240 |
| ttgggtaaat | cttctggttc | cgccatcaaa | ggggctgtaa | tcactgtttc | gcgtaaaaat | 300 |
| gacggagtct | ggaactgcaa | aatcaccaaa | actcctacag | cttggaagcc | caactacgct | 360 |
| ccggctaatt | gcccgaattc | c          |            |            |            | 381 |

<210> 8  
 <211> 127  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 8

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Leu | Glu | Gly | Thr | Glu | Phe | Ala | Arg | Thr | Gln | Val | Thr | Arg | Ala | Val |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ser | Glu | Val | Ser | Ala | Leu | Lys | Thr | Ala | Ala | Glu | Ser | Ala | Ile | Leu | Glu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Gly | Lys | Glu | Ile | Val | Ser | Ser | Ala | Thr | Pro | Lys | Asp | Thr | Gln | Tyr | Asp |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ile | Gly | Phe | Thr | Glu | Ser | Thr | Leu | Leu | Asp | Gly | Ser | Gly | Lys | Ser | Gln |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Ile | Gln | Val | Thr | Asp | Asn | Lys | Asp | Gly | Thr | Val | Glu | Leu | Val | Ala | Thr |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Leu | Gly | Lys | Ser | Ser | Gly | Ser | Ala | Ile | Lys | Gly | Ala | Val | Ile | Thr | Val |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Ser | Arg | Lys | Asn | Asp | Gly | Val | Trp | Asn | Cys | Lys | Ile | Thr | Lys | Thr | Pro |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Thr | Ala | Trp | Lys | Pro | Asn | Tyr | Ala | Pro | Ala | Asn | Cys | Pro | Asn | Ser |     |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |

<210> 9  
 <211> 381  
 <212> DNA  
 <213> Pseudomonas aeruginosa

<400> 9

|            |            |            |            |            |            |     |
|------------|------------|------------|------------|------------|------------|-----|
| gcgctcgagg | gtaccgaatt | ctctcgctct | caggtctcca | gggttatggc | ggaggctggc | 60  |
| tccttgaaga | ctgcagttga | ggcctgcctc | caggatggtc | gtactgctgt | gggtactgct | 120 |
| gctggtcaat | gcgatccggg | tgcgacgggt | tccagtttgt | tgactggtgc | ttctcagact | 180 |
| tctcaaacc  | tgccaaccaa | taccggtggt | ccgcaggttc | tggatcctct | gactactcaa | 240 |
| accactatca | ttgcgacttt | tggtaacggc | gcatccgcag | ctatttctgg | ccagactctg | 300 |
| acctggactc | gtgatgttaa | tggtggctgg | agctgtgcta | ctaccgtaga | tgctaaattc | 360 |
| cgtcctaata | gctgtactga | c          |            |            |            | 381 |

<210> 10  
 <211> 127  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 10

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Leu | Glu | Gly | Thr | Glu | Phe | Ser | Arg | Ser | Gln | Val | Ser | Arg | Val | Met |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ala | Glu | Ala | Gly | Ser | Leu | Lys | Thr | Ala | Val | Glu | Ala | Cys | Leu | Gln | Asp |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Gly | Arg | Thr | Ala | Val | Gly | Thr | Ala | Ala | Gly | Gln | Cys | Asp | Pro | Gly | Ala |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Thr | Gly | Ser | Ser | Leu | Leu | Thr | Gly | Ala | Ser | Gln | Thr | Ser | Gln | Thr | Leu |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Pro | Thr | Asn | Thr | Gly | Val | Pro | Gln | Val | Leu | Asp | Pro | Leu | Thr | Thr | Gln |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Thr | Thr | Ile | Ile | Ala | Thr | Phe | Gly | Asn | Gly | Ala | Ser | Ala | Ala | Ile | Ser |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Gly | Gln | Thr | Leu | Thr | Trp | Thr | Arg | Asp | Val | Asn | Gly | Gly | Trp | Ser | Cys |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Ala | Thr | Thr | Val | Asp | Ala | Lys | Phe | Arg | Pro | Asn | Gly | Cys | Thr | Asp |     |
|     |     |     | 115 |     |     |     | 120 |     |     |     |     | 125 |     |     |     |

<210> 11  
 <211> 507  
 <212> DNA  
 <213> Pseudomonas aeruginosa

<400> 11

|            |             |            |            |            |            |     |
|------------|-------------|------------|------------|------------|------------|-----|
| gcgctcgagc | accatcatca  | ccatggtggt | ggtggcgaga | ttgaggccct | caaggctgaa | 60  |
| atcgaagccc | taaaggccga  | gatagaagca | cttaaggcag | agatcgaggc | gctaaaagcg | 120 |
| gaaatagagg | ctctgaaggc  | aggcgggtga | ggagaattcg | ctcgttcgga | aggcgcatct | 180 |
| gctcttgctt | cgggtcaatcc | gttgaagact | accgttgaag | aggcgctttc | tcgtggttgg | 240 |
| agcgtgaaga | gcggtacagg  | tacagaggac | gctactaaga | aagaggttcc | tctgggggtg | 300 |
| gcggcagatg | ctaacaaact  | gggtactatc | gcactcaaac | ccgatcctgc | tgatggtact | 360 |
| gcagatatca | ctttgacttt  | cactatgggc | ggtgcaggac | cgaagaataa | agggaaaatt | 420 |
| attaccctga | ctcgtactgc  | agctgatggt | ctctggaagt | gcaccagtga | tcaggatgag | 480 |
| cagtttattc | cgaaagggtg  | ctctagg    |            |            |            | 507 |

<210> 12  
 <211> 169  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 12

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Leu | Glu | His | His | His | His | His | Gly | Gly | Gly | Gly | Glu | Ile | Glu | Ala |
| 1   |     |     | 5   |     |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Leu | Lys | Ala | Glu | Ile | Glu | Ala | Leu | Lys | Ala | Glu | Ile | Glu | Ala | Leu | Lys |
|     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |     |
| Ala | Glu | Ile | Glu | Ala | Leu | Lys | Ala | Glu | Ile | Glu | Ala | Leu | Lys | Ala | Gly |
|     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Gly | Gly | Gly | Glu | Phe | Ala | Arg | Ser | Glu | Gly | Ala | Ser | Ala | Leu | Ala | Ser |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Val | Asn | Pro | Leu | Lys | Thr | Thr | Val | Glu | Glu | Ala | Leu | Ser | Arg | Gly | Trp |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Ser | Val | Lys | Ser | Gly | Thr | Gly | Thr | Glu | Asp | Ala | Thr | Lys | Lys | Glu | Val |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Pro | Leu | Gly | Val | Ala | Ala | Asp | Ala | Asn | Lys | Leu | Gly | Thr | Ile | Ala | Leu |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Lys | Pro | Asp | Pro | Ala | Asp | Gly | Thr | Ala | Asp | Ile | Thr | Leu | Thr | Phe | Thr |
|     |     | 115 |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |
| Met | Gly | Gly | Ala | Gly | Pro | Lys | Asn | Lys | Gly | Lys | Ile | Ile | Thr | Leu | Thr |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Arg | Thr | Ala | Ala | Asp | Gly | Leu | Trp | Lys | Cys | Thr | Ser | Asp | Gln | Asp | Glu |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Gln | Phe | Ile | Pro | Lys | Gly | Cys | Ser | Arg |     |     |     |     |     |     |     |
|     |     |     |     |     | 165 |     |     |     |     |     |     |     |     |     |     |

<210> 13  
 <211> 507  
 <212> DNA  
 <213> Pseudomonas aeruginosa

<400> 13

|            |             |            |            |            |            |     |
|------------|-------------|------------|------------|------------|------------|-----|
| gcgctcgagc | accatcatca  | ccatggtggt | ggtggcgagg | tatccgcttt | agagaaagaa | 60  |
| gtttctgctc | tcgaaaaaga  | ggtcagtgct | ctggaaaaag | aggtgtcagc | cttgaaaaag | 120 |
| gaagtatcag | cacttgagaa  | ggcggttga  | ggagaattcg | ctcgttcgga | aggcgcatct | 180 |
| gctcttgctt | cggatcaatcc | gttgaagact | accgttgaag | aggcgctttc | tcgtggttgg | 240 |
| agcgtgaaga | gcggtacagg  | tacagaggac | gctactaaga | aagaggttcc | tctgggggtg | 300 |
| gcggcagatg | ctaacaact   | gggtactatc | gcactcaaac | ccgatcctgc | tgatggtact | 360 |
| gcagatatca | ctttgacttt  | cactatgggc | ggtgcaggac | cgaagaataa | agggaaaatt | 420 |
| attaccctga | ctcgactgc   | agctgatggt | ctctggaagt | gcaccagtga | tcaggatgag | 480 |
| cagtttattc | cgaaggttg   | ctctagg    |            |            |            | 507 |

<210> 14  
 <211> 169  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 14

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Leu | Glu | His | His | His | His | His | Gly | Gly | Gly | Gly | Glu | Val | Ser | Ala |
| 1   |     |     | 5   |     |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Leu | Glu | Lys | Glu | Val | Ser | Ala | Leu | Glu | Lys | Glu | Val | Ser | Ala | Leu | Glu |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Lys | Glu | Val | Ser | Ala | Leu | Glu | Lys | Glu | Val | Ser | Ala | Leu | Glu | Lys | Gly |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Gly | Gly | Gly | Glu | Phe | Ala | Arg | Ser | Glu | Gly | Ala | Ser | Ala | Leu | Ala | Ser |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Val | Asn | Pro | Leu | Lys | Thr | Thr | Val | Glu | Glu | Ala | Leu | Ser | Arg | Gly | Trp |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Ser | Val | Lys | Ser | Gly | Thr | Gly | Thr | Glu | Asp | Ala | Thr | Lys | Lys | Glu | Val |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Pro | Leu | Gly | Val | Ala | Ala | Asp | Ala | Asn | Lys | Leu | Gly | Thr | Ile | Ala | Leu |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Lys | Pro | Asp | Pro | Ala | Asp | Gly | Thr | Ala | Asp | Ile | Thr | Leu | Thr | Phe | Thr |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Met | Gly | Gly | Ala | Gly | Pro | Lys | Asn | Lys | Gly | Lys | Ile | Ile | Thr | Leu | Thr |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Arg | Thr | Ala | Ala | Asp | Gly | Leu | Trp | Lys | Cys | Thr | Ser | Asp | Gln | Asp | Glu |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Gln | Phe | Ile | Pro | Lys | Gly | Cys | Ser | Arg |     |     |     |     |     |     |     |
|     |     |     |     | 165 |     |     |     |     |     |     |     |     |     |     |     |

<210> 15  
 <211> 525  
 <212> DNA  
 <213> Pseudomonas aeruginosa

<400> 15

|            |            |            |            |            |            |     |
|------------|------------|------------|------------|------------|------------|-----|
| gcgctcgagc | accatcatca | ccatggtggt | ggtggcgaga | ttgaggccct | caaggctgaa | 60  |
| atcgaagccc | taaaggccga | gatagaagca | cttaaggcag | agatcgaggc | gctaaaagcg | 120 |
| gaaatagagg | ctctgaaggc | aggcggtgga | ggagaattcg | cacgcgctca | gcttagcgaa | 180 |
| cgcattgacc | tggccagtgg | tctcaagacg | aaagtgagcg | atatcttctc | tcaggatggg | 240 |
| tcctgcccgg | ctaatactgc | tgccacggca | ggcatcgaga | aagataccga | catcaacggc | 300 |
| aagtatgttg | ccaaggtaac | aactggtggc | accgcagctg | cgtctggttg | ttgcactatc | 360 |
| gttgctacta | tgaaagcctc | tgatgtggct | actcctctga | gggggaaaac | tctgactttg | 420 |
| actctaggaa | atgctgacaa | gggttcttac | acttgggcct | gtacttccaa | cgcagataac | 480 |
| aagtacctgc | caaaaacctg | ccagactgct | accactacca | ctccg      |            | 525 |



<210> 16  
 <211> 175  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 16

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Leu | Glu | His | His | His | His | His | Gly | Gly | Gly | Gly | Glu | Ile | Glu | Ala |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Leu | Lys | Ala | Glu | Ile | Glu | Ala | Leu | Lys | Ala | Glu | Ile | Glu | Ala | Leu | Lys |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ala | Glu | Ile | Glu | Ala | Leu | Lys | Ala | Glu | Ile | Glu | Ala | Leu | Lys | Ala | Gly |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Gly | Gly | Gly | Glu | Phe | Ala | Arg | Ala | Gln | Leu | Ser | Glu | Arg | Met | Thr | Leu |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Ala | Ser | Gly | Leu | Lys | Thr | Lys | Val | Ser | Asp | Ile | Phe | Ser | Gln | Asp | Gly |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Ser | Cys | Pro | Ala | Asn | Thr | Ala | Ala | Thr | Ala | Gly | Ile | Glu | Lys | Asp | Thr |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Asp | Ile | Asn | Gly | Lys | Tyr | Val | Ala | Lys | Val | Thr | Thr | Gly | Gly | Thr | Ala |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Ala | Ala | Ser | Gly | Gly | Cys | Thr | Ile | Val | Ala | Thr | Met | Lys | Ala | Ser | Asp |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Val | Ala | Thr | Pro | Lys | Arg | Gly | Lys | Thr | Leu | Thr | Leu | Thr | Leu | Gly | Asn |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Ala | Asp | Lys | Gly | Ser | Thr | Thr | Trp | Ala | Cys | Thr | Ser | Asn | Ala | Asp | Asn |
| 145 |     |     |     |     | 150 |     |     |     | 155 |     |     |     |     |     | 160 |
| Lys | Tyr | Leu | Pro | Lys | Thr | Cys | Gln | Thr | Ala | Thr | Thr | Thr | Thr | Pro |     |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |

<210> 17  
 <211> 525  
 <212> DNA  
 <213> Pseudomonas aeruginosa

<400> 17

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| gtttctgctc | tcgaaaaaga | ggtcagtgtc  | ctggaaaaag  | aggtgtcagc | cttgaaaaag | 120 |
| gaagtatcag | cacttgagaa | gggcggtgga  | ggagaattcg  | cacgcgctca | gcttagcgaa | 180 |
| cgcatgacct | tggccagtgg | tctcaagacg  | aaagtgagcg  | atatcttctc | tcaggatggg | 240 |
| tctgccccgg | ctaatactgc | tgccacggca  | ggcatcgaga  | aagataccga | catcaacggc | 300 |
| aagtatgttg | ccaaggtaac | aactgggtggc | accgcagctg  | cgtctggtgg | ttgcactatc | 360 |
| gttgctacta | tgaaagcctc | tgatgtggct  | actcctctga  | gggggaaaac | tctgactttg | 420 |
| actctaggaa | atgctgacaa | gggttcttac  | acttgggcct  | gtacttccaa | cgcagataac | 480 |
| aagtacctgc | caaaaacctg | ccagactgct  | accactacca  | ctccg      |            | 525 |





